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FRUITS
for the family

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To enjoy good health one should have an adequate supply of fruit in the diet. Fruits are recognized by nutritionists for their protective, regulative, mineral, sugar and vitamin values and as aids to digestion. Farm families are not likely to use as much fruit as they should unless they grow a good share of their supply at home. Nearly all Iowa farms can grow some kind of fruit, but good judgment must be exercised in the selection of sites, soils and kinds if a fruit garden is to be successful. Fruits are more likely to be cared for properly under owner than tenant management, especially if frequent changes of tenants occur.

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Fruits for the Family

By S. W. Edgecombe

GROW YOUR OWN FRUIT

Strawberries, plums, currants and gooseberries can be grown in all parts of the state. Red and black raspberries, though equally distributed regionally, are capricious in their reaction to soils, water supply and diseases. They may be a success on one piece of ground and a failure on the one adjoining. Grapes are well adapted to central and southern Iowa and they withstand considerable abuse and still yield some fruit nearly every year. Plums are the most widely adapted and apples the most popular fruits in the home orchard, but only hardy varieties resistant to disease should be planted. They must, along with the rest of the fruit garden, be protected from farm animals and cared for properly after planting, if they are to be successful. The common red cherries and two or three varieties of hardy pears should be included in home orchards in the south half of the state. Peach, nectarine, apricot and quince cannot be recommended as dependable for long life or production in any section, but many people will want to plant a few of them and be satisfied with an occasional crop.

SIZE OF FRUIT PLANTING

It is well to plant only enough to furnish the home fruit supply. If the small numbers of plants suggested in the list of varieties on page 420 are well grown, they will furnish ample supplies in normal years. Larger plantings require additional labor, with the result that they are likely to be neglected in later years.

POLLINATION

Most small fruits are self-fertile, and single varieties may be planted in the garden. However, in most gardens two or more varieties are desirable to lengthen the season or add variety in flavor. Most varieties of tree fruits are self-sterile

and many varieties are inter-sterile. Therefore it is necessary to plant inter-fertile varieties near each other to insure fertilization of the blossoms and a set of fruit. A strong colony of bees set somewhere near the fruit garden during bloom helps to insure pollination. Growers are cautioned not to spray with lead arsenate or calcium arsenate during the period of full bloom, as these kill the honeybees and other pollinating insects and thus prevent proper pollination. If one must spray during this period to control apple scab or partially control fire blight, only lime sulphur or bordeaux should be used.

SELECTION OF FRUIT PLANTS

Only stock true to name, well grown and free from diseases and insects, should be planted. Nursery-grown plants are usually more satisfactory than home grown. Specific suggestions pertaining to the kinds of fruits follow:

Strawberries

Use only strong, deep-rooted plants from last year's runners for spring planting. Such plants have straw-colored, rather fleshy roots, in contrast to the black, wiry roots of older plants. Strawberry plants may be dug from the home garden patch if the plants are healthy.

Raspberries

Nursery stock is desirable, because home patches are nearly always diseased or infested with injurious insects.

Apples and Pears

Two-year-old branched trees, 5 to 7 feet in height, 9/16 to 11/16 inches in diameter, are most suitable for home orchards.

Budded apple trees are unsuited for planting in Iowa, because the common understock is subject to winter killing. Only root-grafted trees are recommended. When root-grafted trees are planted the tender understock is less likely to be injured, because it is set deeper below the surface of the soil than the understock of the budded trees.

Plum and Cherry

Two-year-old trees budded in the nursery are recommended. One-year stock, however, is sometimes used.

Peach

One-year-old trees budded in the nursery are used.

SAFEGUARDING AGAINST LOW-TEMPERATURE INJURY

In addition to selecting cold-resistant varieties, planting under the protection of windbreaks and employing cultural methods that encourage early maturing of plants in the fall, a special practice has been developed to safeguard apple trees from winter killing. The process is to top-work desirable, but relatively tender, varieties on young trees of a hardier kind. Top-working by grafting or budding is performed on the framework branches a foot or two away from the tree trunks. Strong frameworks which resist breaking and crotch splitting can be secured along with greater hardiness by using stocks such as Virginia Crab or Hibernal, which have good branching habits.

TIME FOR PLANTING

It is best to plant fruit trees and small fruits early in the spring as soon as the ground may be worked. The ground should be prepared ahead of time so that the plants may be set immediately upon arrival. If the plants arrive before the ground is ready, the bundles should be opened and the plants "heeled in," about 12 inches deep, so that the roots are covered with moist soil.

PLANTING

Wherever possible the rows of plants should be set across the direction of the slope, to prevent soil erosion. On an occasional site the rows might have to follow the curving contours of the land, but this is seldom necessary where the areas are small. All kinds of plants should be set in holes slightly wider and deeper than the spread and depth of their

root systems. Strawberries should be planted so that their crowns are exactly at the ground level. Red raspberries and grapes may be planted at ground level or a little below, and black raspberries with the bud or buds covered 1 to 2 inches deep. Tree fruits should be planted about 3 inches deeper than they stood in the nursery, with the heavy side of the branching system toward the southwest, the direction of the prevailing winds. The trees should not be set perpendicularly, but should lean at a pronounced angle towards the wind. As the soil is replaced it should be tamped firmly about the roots without bruising them, so as to establish moisture contacts at once. If the soil is very dry at planting time, it should be soaked with water immediately after the plants are set.

PRUNING AT PLANTING TIME

The roots of strawberries are cut back about one-third, chiefly for convenience in planting. The roots of raspberries and other bush fruits are not pruned, though long, straggling roots which do not fit the holes may be cut back if desired. Red raspberry canes are pruned to lengths of 8 to 12 inches. Weak shoots of currants are removed, and two or three strong shoots, if there are that many, are cut back to two or three buds. The roots of grapes are cut back to fresh unbruised ends, and long straggling roots are shortened to convenient lengths. The tops should be cut to one cane with two strong buds.

Generally the young fruit trees are branched and the root systems are always shortened and damaged in digging. Therefore it is necessary to reduce the number of buds by removing some of the branches and shortening others to balance growth in tops and roots. It is also necessary to guide the shape and the character of the framework of the tree by removing weak or poorly located branches and retaining desirable ones. In the case of apples and pears, one large, strongly attached branch facing the southwest, about 24 inches from the ground, should be preserved and all branches below it removed. Preserve two, sometimes three, other branches distributed as evenly as possible around the tree. The top branch, like the lowest one, should lean towards the

prevailing wind. The topmost or strongest branch should be retained as a leader. Head back the framework branches, to one-third or one-half their original length, taking care to see that the topmost branch is noticeably longer than any other. Generally the leader will be 18 to 24 inches long and the laterals 12 to 16 inches after pruning. About 3 years are required to grow a main axis long enough to provide spacing for the permanent main branches of apples and pears, during which time some of the branches left at planting time and later may be removed to make way for stronger, better spaced or more widely separated permanent branches.

The directions given for pruning apples and pears apply with modifications to plums and sour cherries. Generally, the trees will be headed lower and the framework branching will be less clearly defined. It will be harder to preserve a central leader and less necessary. The smaller and weaker branches should be removed at planting time and the remaining branches headed back one-half or two-thirds their original length. The buds of cherries are easily knocked off or damaged, so that many fail to start into growth; cherry trees, therefore, must be handled carefully.*

PROTECTION AGAINST MICE, RABBITS, AND APPLE TREE BORERS

Shortly after the fruit trees are planted, they should be protected from injury caused by mice, rabbits or borers. A wrap made out of ¼-inch galvanized wire screen placed around the trunk from a point 2-3 inches below the surface of the ground to some 18-20 inches up the trunk will furnish adequate protection against mice and rabbits. Several thicknesses of ordinary newspapers or heavy crepe paper wrapped around the trunk from a point several inches below the surface of the ground up to the lowest scaffold branch will furnish protection against boring insects. These paper wraps must be removed in late August to allow the bark on the trunk to mature. Otherwise, winter injury may occur to the bark under the wrap.

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* See Agr. Exp. Sta. and Agr. Ext. Serv. joint publication, Bul. P10 (New Series), Pruning Fruit Trees, by S. W. Edgecombe, for detailed pruning directions on fruit trees.

FRUITS AND THEIR VARIETIES RECOMMENDED FOR IOWA SMALL FRUIT PLANTATIONS AND HOME ORCHARDS

Fruit	Variety list††	Number of plants	Av. production at bearing age	Distance of rows apart in feet	Distance apart in rows in feet
Strawberry*	June Bearing: Beaver*, Blakemore*, Senator Dunlap*, Premier*				
	Everbearing: Wayzata, Gem	100	50 quarts	4	15″-18″
Red Raspberry*	Latham, Chief (central and northern Iowa)	50	75 quarts	7-8	3-4
Black Raspberry*	Cumberland, Black Pearl, New Logan (central and southern Iowa)	50	75 quarts	7-8	4-5
Grape	Beta‡, Caco‡‡ (red), Concord‡‡ (for main planting), Diamond (White), Fredonia‡‡, Moore Early‡‡, Niagara‡‡ (White), Worden‡‡	12	150 quarts	10	8-10
Currant	Cherry, Fay, Perfection, Red Lake, Wilder	10	20 quarts	7-8	4-5
Gooseberry	Champion, Como, Downing	10	30 quarts	7-8	4-5
Peach*	Polly*, ‡‡, Champion‡‡, Sungold*, ‡‡	6	15 bu.	16-18	16-18
Cherry	Sour: Early Richmond*, ‡‡, English Morello*, Montmorency*, ‡‡	3-4	100 quarts	18-20	18-20
Plum*, **	Ember*, GreenGage‡‡,Kahinta*, Lombard‡‡, Monitor, Sapa, Toka, Underwood, Waneta	5-6	6 bu.	15-18	15-18
Pear	Anjou‡‡, Flemish Beauty‡‡, Kieffer‡‡, Lincoln, Parker, Patten, Seckel‡‡, Winter Nelis‡‡	2	15 bu.	20-25	20-25
Apple†	Brilliant, Chenango‡‡, Delicious‡‡ (Red Sports), Duchess (Oldenburg), Edgewood‡‡, Snow (Fameuse), Golden Delicious‡‡, Grimes Golden‡‡, Haralson, Sharon, Secor‡‡, Turley ‡‡, Hawkeye Greening, Joan, Jonathan‡‡, Yellow Transparent‡‡	5-10	100 bu.	33-40	33-40

††The varieties listed are those that grow satisfactorily in Iowa. Plant only on fertile, well-drained soil. Usually it is advisable to plant on north or east slopes or on the north or east sides of the farmstead so as to protect the plantings from the prevailing seasonal winds of summer. Satisfactory fruit can be produced only when diseases, insects and rodents are controlled. Also fruit plantings must have correct management, particularly with respect to soil management, pruning and spraying.

*Varieties recommended for refrigerated lockers.

‡Jelly grape only for extreme northern Iowa.

‡‡Varieties adapted only to the southern half of the state. Most of them are more suited to the southern portions of the state and are less likely to be injured in those sections than in central or northern Iowa.

**All the plum varieties listed above, with the exception of Green Gage and Lombard, require cross-pollination from blossoms of native plums such as Terry, Surprise or the variety Toka. One or two trees of these pollinator varieties are necessary.

†It is recommended that Virginia Crab and Hibernal apple varieties be planted for stock and to be top-worked to standard fruiting varieties. This practice will produce long-lived productive apple trees. See Iowa Agr. Ext. Cir. 326.